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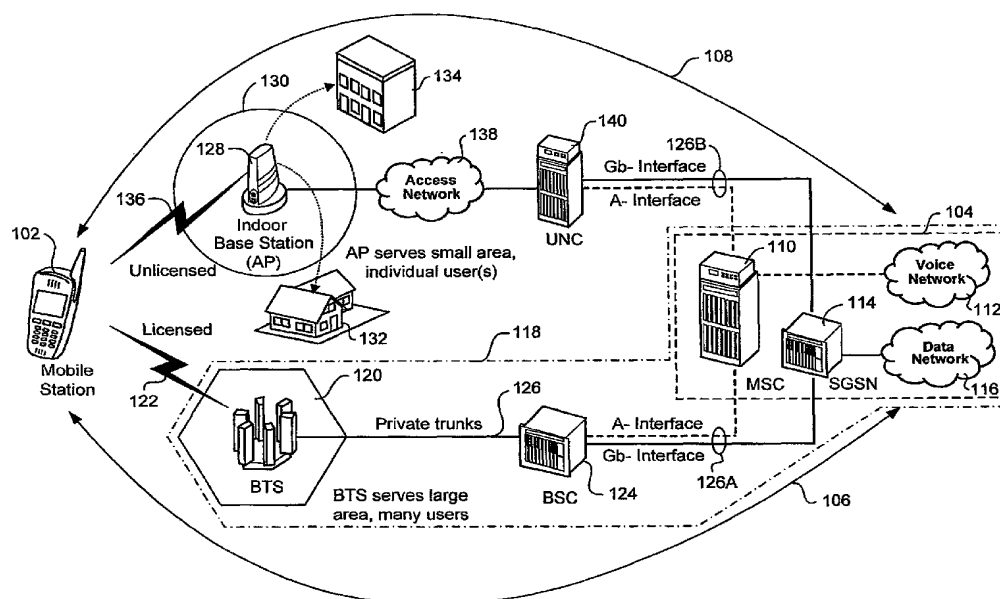
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[Continued on next page]

(54) Title: MESSAGING IN AN UNLICENSED MOBILE ACCESS TELECOMMUNICATIONS SYSTEM



(57) Abstract: Techniques for performing messaging between mobile stations (MSs) and UMA network controllers (UNCs) in an unlicensed mobile access network (UMAN). URR (UMA radio resource) messages are exchanged between an MS and one or more UNC to perform various operations associated with UMAN. The MS may access the UMAN via a wireless access point (AP) that is communicatively coupled to the UNC via an IP network. The URR messages are sent between MSs and UNC using an Up interface comprising a set of layered protocols over an underlying IP transport.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2005/016767

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L12/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 2004/039111 A (AT & T WIRELESS SERVICES, INC) 6 May 2004 (2004-05-06)</p> <p>page 7, line 1 - page 8, line 29 page 16, line 19 - page 17, line 9 page 21, line 21 - line 29</p> <p>----- -/--</p>	<p>1-7, 19-23, 33-37, 45-51</p>

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

8 September 2005

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07. 11. 2005

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2005/016767

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>"Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 (3GPP TS 24.008 version 5.6.0 Release 5); ETSI TS 124 008"</p> <p>ETSI STANDARDS, EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, SOPHIA-ANTIPO, FR, vol. 3-CN1, no. V560, December 2002 (2002-12), pages 293-317, XP014007949 ISSN: 0000-0001 paragraph [10.1] - paragraph [10.3]; table 10.3</p> <p>-----</p>	1-7, 19-23, 33-37, 45-51
A	<p>WO 2004/034219 A (INTERDIGITAL TECHNOLOGY CORPORATION) 22 April 2004 (2004-04-22)</p> <p>paragraph [0022] - paragraph [0023]</p> <p>-----</p>	1-7, 19-23, 33-37, 45-51
A	<p>"3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; 3GPP system to Wireless Local Area Network (WLAN) Interworking; System Description (Release 6); 3GPP TS 23.234"</p> <p>ETSI STANDARDS, EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, SOPHIA-ANTIPO, FR, vol. 3-SA, no. V230, November 2003 (2003-11), XP014023920 ISSN: 0000-0001 the whole document</p> <p>-----</p>	1-7, 19-23, 33-37, 45-51

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/016767

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1 - 7, 19 - 23, 33 - 37, 45 - 51

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7,19-23,33-37,45-51

Method, network controller, mobile station and machine readable medium for releasing a connection between a mobile station and a network controller of an unlicensed mobile network

2. claims: 8-13, 24-29, 38-41, 52-55

Method, network controller, mobile station and machine readable medium for paging a mobile station in an unlicensed mobile network

3. claims: 14-18,30-32,42-44,56-58

Method, network controller, mobile station and machine readable medium for performing a classmark interrogation and providing classmark information for a mobile station in an unlicensed mobile network

4. claims: 59-83

Method, network controller, mobile station and machine readable medium for performing an handover in an unlicensed mobile network

5. claims: 84-118

Method, network controller, mobile station and machine readable medium for registering a mobile station in an unlicensed mobile network

6. claims: 119-147

Method, network controller, mobile station and machine readable medium for assigning a voice bearer channel to a mobile station in an unlicensed mobile network

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/016767

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004039111 A	06-05-2004	AU 2003286589 A1 CA 2503444 A1 EP 1554902 A1 US 2004203346 A1	13-05-2004 06-05-2004 20-07-2005 14-10-2004
WO 2004034219 A	22-04-2004	AU 2003282518 A1 CA 2502248 A1 CN 2650431 Y DE 20315593 U1 EP 1550251 A2 HK 1063585 A2 TW 244660 Y	04-05-2004 22-04-2004 20-10-2004 04-03-2004 06-07-2005 26-11-2004 21-09-2004